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All-solid-state tunable ultraviolet subnanosecond laser with direct pumping by the fifth harmonic of a Nd:YAG laser

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Abstract

We report what we believe is the first all-solid-state tunable ultraviolet laser pumped by the fifth harmonic of a Q-switched Nd:YAG laser. Our laser based on a Ce3+:LiLuF4 active medium stably generates a single, satellite-free, 0.88-ns pulse under 5-ns, 10-Hz repetition rate pumping conditions. A novel tilted-incident-angle side-pumping scheme resulted in a simple laser-cavity design. © 1998 Optical Society of America.